

Abstract of the Disclosure

A pulse sequence is configured by making a pulse waveform output from a pulse light source into a super
5 Gaussian pulse of the third order or higher, and input
to a spectrum expanding device. The spectrum expanding
device broadens the spectrum of the pulse sequence with
a nonlinear medium. A modulator array extracts
longitudinal mode components from the expanded spectrum,
10 and modulates the extracted longitudinal mode components
with modulation data. Lastly, the modulated longitudinal
mode components are coupled and transmitted to a
transmission line.